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South African Radio League \* Suid-Afrikaanse Radioliga Member Society of the International Amateur Radio Union since 1925 <u>www.sarl.org.za</u> <u>www.iaru.org</u> <u>www.iaru-r1.org</u>

July 2014

#### SARL YL Sprint



his is a fun activity to celebrate National Women's Day on 9 August. Call "YL Sprint!" the Sprint runs from 09:00 to 10:00 UTC (11:00 to 12:00 CAT).

It is a phone sprint on the 40-metre band (7 063 to 7 100 and 7 130 to 7 200 kHz). The exchange is a RS report and YL or OM.

Scoring - Contacts between YL stations are

worth 5 points; contacts between YL and OM stations are worth 3 points, and contacts between OM stations are worth 1 point.

Log sheets and summaries shall be submitted within 7 days after the contest by e-mail to <a href="mailto:zs4bfn@netactive.co.za">zs4bfn@gmail.com</a>. The closing date for log submissions is 16 August 2014.

#### CQ Southern Africa HF Contests

he aim of the HF Contests is for participants to contact as many amateurs in Southern Africa (refer to General Rules 1.b.) as possible on the 20, 40 and 80 m amateur bands.

HF Phone: the first Sunday in August - 3 August 2014; HF Digital: the third Sunday in August - 17 August 2014, and HF CW: the last Sunday in August - 31 August 2014

The contests run from 13:00 to 16:30 UTC (15:00 to 18:30 CAT) on each Sunday. The following frequencies may be used.

HF Phone - 14 125 to 14 300 kHz; 7 063 to 7 100 and 7 130 to 7 200 kHz and 3 603 to 3 650 and 3 700 to 3 800 kHz

HF Digital - 14 070 to 14 099 kHz; 7 040 to 7 060 kHz and 3 580 to 3 600 kHz

HF CW - 14 000 to 14 060 kHz; 7 000 to 7 040 kHz and 3 510 to 3 560 kHz. The following categories of participation are available - a) Single Operator Single Band; b) Single Operator All Band; c) Multi Operator Single Band or d) Multi Operator All Band. Individual competitors and club stations are encouraged to compete.

The exchange is a RS or RST report and a consecutive serial number starting at 001.

SSB contacts count 1 point. CW and Digital contacts count 2 points. Count two points for each area (see below) on each band. Count 2 points for each stations contacted on all three bands. The call areas are - Area 1: ZS1 Western Cape; Area 2: ZS2 Eastern Cape; Area 3: ZS3 Northern Cape; Area 4: ZS4 Free State; Area 5:

ZS5 KwaZulu-Natal; Area 6: ZS6 Gauteng, Mpumalanga; Limpopo and North West; Area 7: 3B8 Mauritius, 3DA Swaziland, 7P Lesotho, 7Q

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"Mobile phone switched on and handheld transceiver switched on as well." DO7KAY

#### July

28 - Eid-ul-Fitr 31 July to 20 Aug - Days of the Dinosaur, Cape Town

#### August

1 to 3 - Celebration of Flowers, Darling 3 - CQ South Africa HF Phone Contest; SARL Youth Net 8 to 10 - Wine and Food Festival, Hermanus 9 - National Women's day; SARL YL Sprint; SA on Tap Craft Beer Festival, Durban; Apiesdoring Festival Thabazimbi 12 - World Elephant Day 16 and 17 - International Lighthouse and Lightship Weekend 17 - CQ South Africa Digital Contest 23 - Radio technology in Action in Johannesburg; Rotary Great Train Race, Middelburg 29 and 30 - Hantam Meat Festival, Calvinia 29 to 31 - Gauteng Getaway Show, JHB 31 - CQ South Africa CW Contest 28 Aug To 5 Sept -Clanwilliam Wild Flower



Current Summits-on-the-Air (SOTA) activities are announced at <a href="www.sotawatch.org">www.sotawatch.org</a>
And more SOTA information can be found at <a href="www.sota.org.uk">www.sota.org.uk</a> and <a href="www.zs4bfn.co.za/sota.asp">www.zs4bfn.co.za/sota.asp</a>

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Malawi, C9 Mozambique, Z2 Zimbabwe, 5R Madagascar, FR Reunion Island and FH Mayotte, and Area 8: 9J Zambia, A2 Botswana, D2 Angola, V5 Namibia, ZD9 Gough and Tristan da Cunha Islands, ZS7 Antarctica and ZS8 Marion Island. Contacts with stations outside these areas are allowed, QSO points may be claimed but no zone or three-bander points may be claimed.

Awards. Certificates are awarded to the first three places and the highest single band score in each contest. There is also a trophy for the highest combined score in both contests. A trophy is awarded to the CW contestant in his or her first year of CW achieving the highest score. Candidates for this trophy shall state the date of the issue of the licence on the summary sheet.

Logs must be submitted to the Bloemfontein Amateur Radio Club by 10 August 2014 (Phone), 24 August 2014 (Digital) and 7 September 2014 (CW). Logs must be sent to <a href="mailto:zs4bfn@netactive.co.za">zs4bfn@netactive.co.za</a> or <a href="mailto:zs4bfn@gmail.com">zs4bfn@gmail.com</a>

## A Tool for Opening Doors Ward NØAX

ou may have seen some coverage of the European Radiosport Team Championship (ERTC), part of a Europe-wide youth gathering known as Youngsters on the Air (YOTA) which is held every year in different European Union countries under EU and International Amateur Radio Union Region 1 sponsorship. It brings youth together in the spirit of cultural exchange and learning from one another in all segments of Amateur Radio, science and electronics.

This year fifteen EU countries were represented. ERTC also brought young people together globally over the Internet, using Amateur Radio simulation software on a shared platform (Hamsphere <a href="http://www.hamsphere.com/">http://www.hamsphere.com/</a>) - a completely natural hangout for them. The winners (with ages in parentheses) were: Gold Medal - Czech Republic - OJ45OK: Sarka Vavrova, OK2SVA (21); Jindrich Kostal, OK1NOR (24), and Jan "Honza" Dohnalek, OK1JD (20)

Silver Medal - Italy - OJ78IT: Nicola Tonci, IZ6TSA (20); Gabry Iuliani, IT9RGY (26) and Orazio Intagliata, IT9DBF (25)

Bronze Medal - Estonia - OJ56ES: Keijo Kapp, ES1XQ (17); Tauri Helimets, ES5HTA (29) and Keven Mekk, ES6AXS (18)

Continental winners were:

Europe: Gaudentas Mozura, LY3BHY

Asia: Faisal Al-Ajmi, 9K2RR

South America: Jairo Ramos Sansone, PU3JAI Oceania: Eko, 91HS576 (Central Java, Indonesia)

Africa: Tarek Zeidan, SU1TZ

North America: ARRL Centennial, W100AW activated by Martti, OH2BH, as part of the ARRL Centennial celebrations in Hartford, Connecticut

ERTC was conducted much like a regular amateur radio contest. There were two operating periods of three hours each, the teams used special amateur radio-style call signs, and they called CQ and tuned for multipliers. Hamsphere is fairly realistic in that there is QRM and QRN and the bands aren't always open. You can also turn up the mic gain until you are over-modulating - then Hamsphere disables you. Gee, could we get them to take over 20 metres some time? No, of course it's not a real amateur radio contest, but there seems to be some concern that simulated amateur radio will replace or substitute for actual amateur radio. I understand the concern but I'm not too worried - I'm actually encouraged and here's why.

We should evaluate Hamsphere for what it is - a simulation of amateur radio. No one is claiming it to be actual amateur radio. Simulators are very useful as a way of demonstrating some of the concepts of amateur radio to people unfamiliar with what radio is which includes most of the population. Sure, it would be great to introduce people to amateur radio at a full-size station but online simulators can be accessed anywhere, anytime and in a medium that is familiar to the target audience. That's a recipe for success, in my opinion. Simulation opens a door - it does not claim to be the entire experience.

Simulators are widely used by pilots, doctors, military personnel, technicians, etc., to get some experi(Continued on page 3)

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ence with controls and operational details. They do not confuse simulation with reality and I don't think any of the Hamsphere users do either. Simulators provide excellent



training opportunities that we can use during licensing classes and when showing new licensees how the various terms and techniques relate to on-the-air operating. Using simulators, public service training can also be conducted in a controlled environment before live on-the-air drills.

Beginning operators who participated in ERTC got some experience with using phonetics, copying through noise and interference, confirming call signs, finding a frequency, logging, and so on. They will be more prepared when they get the opportunity to participate in amateur radio "for real" and that is our job - to help them take the next step, not disrespect them because they did not come to amateur radio and experience it exactly as we did.

Certainly, the best possible door to amateur radio is a personal mentoring relationship with an experienced, licensed amateur - no one is trying to diminish that. Those, unfortunately, are far less common than they were when we got into ham radio. Further, people under thirty have a much different view of communication technology. We have to recognize that and work with it, not insist on imposing our history on the potential recruits. Right now much of our target audience doesn't even know amateur radio exists, so any door we can open should be opened. Sure, not all of them will come on through but given that many wouldn't try amateur radio at all without an introduction they understand, this can only be a net positive for Amateur Radio in the long run.

Once given a taste of what radio communication "feels like," simulator users are more likely to at least take an interest in learning about amateur radio. Licensed users of the simulator can fill that need by acting as ambassadors of Amateur Radio. I think of simulators as filling a role similar to short-wave listening or even Citizens Band "back in the day." Those were the gateways to Amateur Radio for many amateurs.

I know that simulators are uncomfortable for many of us who have long experience with amateur radio. It's not so much that we are "old-fashioned" as that we have taken a different path to and through ham radio. There are many paths to the doors of amateur radio - simulation is one of them. We need to use any tool available to open as many doors as possible. It's what we do then to help new licensees after they come through one of those doors that counts.

#### An Interesting cross-mode contact

ere's a cross-mode contact made during the IARU HF Championship that was definitely out of the ordinary - right in the middle of the contest while operating as N3BUO, Gary, WA5FWC, copied a CW SOS call in the SSB band on his CQ frequency and dropped the contest to render help! "During

In Spanish about a ship in distress. The message said they were in danger of ditching in a raft as the ship was losing power and the air time was short. I received what I perceived to be coordinates off the Argentine coast about 565 miles. I copied the info and a Mexican station translated and relayed this information to the Maritime Mobile net which then contacted the Argentine Coast Guard and Argentine authorities rescued the passengers." Strong work! (Thanks, Dave, N3BUO, and Gary, WA5FWC)



#### Operating Tip

ark, ZL3AB, contributed an analysis of operating time in the 2013 CQ WW CW and SSB Contests. "I was wondering what the average operating times were for Single Operator All Band and Single Operator All Band Assisted stations.

Single Op Single Op (A) Overall CW 17,4 18,1 17,8 SSB 14,7 13,8 14,2

Also 73% of operators operated for less than 24 hours in the CW contest with 79% doing so in the SSB contest. Interestingly there seemed to be no material difference in time operated in each category between single ops and single ops assisted in both contests. It also seems there were a lot more very casual operators in the SSB contest. It is pretty obvious that without the casual operators the hard core would get bored pretty quickly!"

The tip? Keep your butt in the chair!

#### Build your own test equipment

he June 2014 issue of Nuts and Volts <a href="www.nutsandvolts.com">www.nutsandvolts.com</a> includes a useful product for amateurs who want to build their own test equipment. "A 150 MHz RF Signal Generator for Your Test Bench" by Robert Reed. It's based on the venerable MC1648 ECL-family LC oscillator and includes the ability for AM and FM. The design avoids the complexities of building the attenuator by recommending the builder use an external switched attenuator, of which there are many on the surplus market. The author also published the article "180 MHz Sweep Generator" in the December 2013 issue. Also check out the author's follow-up comments in the July 2014 issue.

#### New Regulations in Thailand

new set of Thai Amateur Radio regulations went into effect on 23 July, granting Thai amateurs several new sets of frequency privileges, including a secondary allocation on 6 metres and expansion of 160 and 80 metre operation to 1800 - 2000 kHz and 3500 - 3600 kHz. Advanced licensees will be able to use up to 1000 watts and more club and contest call signs will be available, such as E2X. The Morse receiving test is retained, as well. (Thanks, Champ, E21EIC, and Sam, SM3DYU)

#### Contest Calendar

This week's contests compiled by Bruce Horn, WA7BNM. The period covered is 28 July to 4 August 2014

CWops Mini-CWT Test

13:00 - 14:00 UTC, 19:00 - 20:00 UTC 30 July and

03:00 - 04:00 UTC 31 July

Mode: CW

Bands: 160, 80, 40, 20, 15, 10 m Classes: Single Op - QRP, low or high

Max power: HP: >100 watts; LP: 100 watts; QRP: 5

watts

Exchange: Member: Name and member no; non-

Member: Name and state, province or country

Work stations: Once per band QSO Points: 1 point per QSO Multipliers: Each call once

Score Calculation: Total score = total QSO points x

total mults

Submit logs by: 04:00 UTC 2 August 2014

Post log summary at:

http://www.hornucopia.com/3830score/

Mail logs to: (none)

Find rules at: <a href="http://www.cwops.org/cwt.html">http://www.cwops.org/cwt.html</a>

QRP Fox Hunt

01:00 - 02:30 UTC 31 July

Mode: CW

Bands: 20 m Only

Classes: Single Op - fox or hound

Max power: 5 watts

Exchange: RST, state, province or country, name and

power output

QSO Points: 1 point per QSO

Multipliers: (none)

Score Calculation: Total score = total QSO points

Submit logs by: 02:30 UTC 1 August 2014

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Wen-Do-Lin Traveller's Rest (ZS4D) at Glen, just off the N1 http://www.wen-do-lin.com e-mail: mcwilson@telkomsa.net

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E-mail logs to: (see rules)
Mail logs to: (none)

Find rules at:

http://www.grpfoxhunt.org/summer\_rules.htm

NCCC RTTY Sprint

01:45 - 02:15 UTC 1 August

Mode: RTTY
Bands: (see rules)
Classes: (none)
Exchange: (see rules)

Score Calculation: Total score = total QSO points x

total mults

Submit logs by: 3 August 2014

E-mail logs to: (none)

Post log summary at: <a href="http://www.3830scores.com/">http://www.3830scores.com/</a>

Mail logs to: (none)

Find rules at: <a href="http://www.ncccsprint.com/rttyns.html">http://www.ncccsprint.com/rttyns.html</a>

NCCC Sprint Ladder

02:30 - 03:00 UTC 1 August

Mode: CW

Bands: 160, 80, 40, 20 m Classes: Single Op Max power: 100 watts Exchange: (see rules)

Work stations: Once per band

QSO Points: NA station: 1 point per QSO; non-NA

station: 1 point per QSO with an NA station

Multipliers: Each US state (including KL7 and KH6) once per band; Each VE province once per band; Each North American country (except W/VE) once per

band

Score Calculation: Total score = total QSO points x

total mults

Submit logs by: 3 August 2014

E-mail logs to: (none)

Post log summary at: <a href="http://www.3830scores.com">http://www.3830scores.com</a>

Mail logs to: (none)

Find rules at: <a href="http://www.ncccsprint.com/rules.html">http://www.ncccsprint.com/rules.html</a>

TARA Grid Dip Shindig 00:00 - 24:00 UTC 2 August

Mode: PSK, RTTY

Bands: 160, 80, 40, 20, 15, 10, 6 m

Classes: High Power; Low Power; QRP; Rover; SWL Exchange: Name and 4-character grid square

Work stations: Once per band QSO Points: 1 point per QSO

Multipliers: Each grid square once per band

Score Calculation: Total score = total QSO points x

total mults

Submit logs by: 31 August 2014

E-mail logs to: (none)
Post log summary at:

http://www.n2ty.org/seasons/tara\_grid\_score.html

Mail logs to: (none)
Find rules at:

http://www.n2ty.org/seasons/tara\_grid\_rules.html

10-10 International Summer SSB Contest 00:01 UTC 2 August to 23:59 UTC 3 August

Mode: 55B Bands: 10 m Only

Classes: Individual; Club; QRP

Max power: non-QRP: >5 watts; QRP: 5 watts

Exchange: 10-10 Member: Name, 10-10 number and state, province or country; Non-Member: Name, 0 and

state, province or country

QSO Points: 1 point per QSO with a non-member; 2

points per Q50 with a 10-10 member

Multipliers: (none)

Score Calculation: Total score = total QSO points

Submit logs by: 18 August 2014

E-mail logs to: tentencontest@ten-ten.org

Mail logs to: Dan Morris, KZ3T, 3162 Covington Way,

Lenoir, NC 28645, USA

Find rules at: <a href="http://www.ten-ten.org/Forms/QSO%">http://www.ten-ten.org/Forms/QSO%</a>

20Party%20Rules.pdf

European HF Championship 12:00 - 23:59 UTC 2 August

Mode: CW, SSB

Bands: 160, 80, 40, 20, 15, 10 m

Classes: CW Only - high or low; SSB Only - high or

low; Mixed - high or low; SWL

Max power: HP: 1 500 watts; LP: 100 watts Exchange: RS(T) and 2-digit year first licensed

Work stations: Once per band per mode

QSO Points: 1 point per QSO

Multipliers: Each 2-digit year licensed once per band Score Calculation: Total score = total QSO points x

total mults

Submit logs by: 11 August 2014

Upload log at: http://lea.hamradio.si/~scc/euhf/

euhf\_log\_submission.htm
Mail logs to: (none)

Find rules at:

http://lea.hamradio.si/~scc/euhf/euhfcrules.htm

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North American CW QSO Party

18:00 UTC 2 August to 05:59 UTC 3 August

Mode: CW

Bands: 160, 80, 40, 20, 15, 10 m

Classes: Single Op - QRP or low; Multi-Two - low Max operating hours: Single Op: 10 hours; Multi-Two:

12 hours

Max power: LP: 100 watts; QRP: 5 watts

Exchange: NA: Name and state, province or country;

non-NA: Name

Work stations: Once per band

QSO Points: NA station: 1 point per QSO; non-NA

station: 1 point per QSO with an NA station

Multipliers: Each US state (including KH6/KL7) once per band; Each VE province/territory once per band; Each North American country (except W/VE) once

per band

Score Calculation: Total score = total QSO points x

total mults

Submit logs by: 05:59 UTC 10 August 2014

E-mail logs to: (none)

Upload log at:

http://www.ncjweb.com/nagplogsubmit/

Mail logs to: Chris Hurlbut, KL9A, 3117A Fen Way,

Bozeman, MT 59718, USA

Find rules at:

http://www.ncjweb.com/NAQP-Rules.pdf

RSGB RoPoCo CW

07:00 - 08:30 UTC 3 August

Mode: CW

Bands: 80 m Only Classes: (none)

Max power: 100 watts

Exchange: RST and previous postcode received QSO Points: 10 points per QSO with UK station

Multipliers: (none)

Score Calculation: Total score = total QSO points

Submit logs by: 19 August 2014

Upload log at:

http://www.rsqbcc.org/cgi-bin/hfenter.pl

Mail logs to: RSGB G3UFY, 77 Bensham Manor Road,

Thornton Heath, Surrey CR7 7AF, England

Find rules at:

http://www.rsqbcc.org/hf/rules/2013/rropoco.shtml

SARL HF Phone Contest 13:00 - 16:30 UTC 3 August

Mode: SSB

Bands: 80, 40, 20 m

Classes: Single Op All Band; Single Op Single Band;

Multi-Op All Band; Multi-Op Single Band

Exchange: RS and serial no Score Calculation: (see rules) Submit logs by: 10 August 2014

E-mail logs to:

zs4bfn@netactive.co.za or zs4bfn@gmail.com

Mail logs to: (none)
Find rules at:

http://www.sarl.org.za/Document\_Store/ CONT\_20140101\_SARL\_Contest\_Manual\_2014.pdf

#### African DX



5V, Togo. The Czech DXpedition team will be in Togo for 14 days but will be active between 25 September and 3 October. Operators mentioned (w/call signs) are David, OK6DJ (5V7DB), Pavel, OK1FPS (5V7PS), and Petr, OK1FCJ (5V7ST). Activity will be on 160 - 10 metres using 2  $\times$  K3, 1  $\times$  KX3 and 2  $\times$  PA into 2  $\times$  Spiderbeam (w/WARC), 1  $\times$  vertical (40 - 10 m), 1 vertical (160/80 m) and special RX antennas for the low bands.

Operations will be on CW, SSB and the Digital modes. They plan to be in the CQ WW DX RTTY Contest (27 and 28 September). QSL via OK6DJ, direct, by the Bureau, eQSL, LoTW or using the OQRS on ClubLog. For more details and updates, see their Web pages at <a href="http://www.cdxp.cz/">https://www.facebook.com/groups/1472348776313779</a> and <a href="http://grz.com/db/5V7DB">https://www.facebook.com/groups/1472348776313779</a> and <a href="http://grz.com/db/5V7DB">https://grz.com/db/5V7DB</a>

ZS3, South Africa. Dennis, ZS4BS, will be visiting family in Douglas in the Northern Cape - grid square KG10vw for the ZS Worked all Grid Squares Award. On Friday afternoon he will travel from KG30 through KG20 to his destination and can work 40, 30, 20 SSB from the vehicle. During the weekend he will test an End Fed antenna and HB9JOE SOTA antenna, so 80 metres is also possible. Sunday on the return it is KG10, KG20 and home in KG30. To arrange a sked, send an e-mail to zs4bs@netactive.co.za

ZS2, South Africa. Andrew, ZS2G, and Mandy, ZS2AV, are hoping to activate Kompassberg ZS/EC-002 on Sunday 3 Aug 2014. They will use a FT-817ND running 5 Watt SSB on 7 090 kHz. The antenna will be a dipole on a 4 m telescopic painters pole.



IOTA-preferential frequencies

CW: 28 040 24 920 21 040 18 098 14 040 10 114 7 030 3 530 kHz SSB: 28 560 28 460 24 950 21 260 18 128 14 260 7 055 3 760 kHz

S7, Seychelles (Correction). Kasimir, DL2SBY, will be active as S79KB, from two islands in the Seychelles between 4 and 18 October. He is scheduled to activate

Mahe (4 to 9 October) and Praslin (9 to 18 October). Both islands are IOTA AF-024. Activity will be on 20 to 10 metres including 17 and 12 metres and possibly 30 metres using CW, SSB and RTTY. His equipment will be a FT-900AT with an ACOM 1010 amp (400 w [allowed], not 600 w as reported last week) into a triple-leg antenna for 20 to 10 m. He will upload the log onto ClubLog. The QSL cards will be printed as soon as possible. QSL via DL2SBY, by the Bureau, direct and as well as through PayPal requests.

VQ9, Chagos Islands (Update). Two weeks ago we mentioned that Bob, N7XR, was planning to be active as VQ9XR from Diego Garcia (AF-006) in 2014. It was announced that his planned opera-

tions will start on or about 25 August for 3 weeks followed up by a 1 week trip in October or November. Activity will be focused on CW and RTTY (some SSB) during these trips. Operations will be on 160 to 10 metres using an IC-7600 with an amp into a SteppIR-BigIR, Spiderbeam and dipoles for 80 and 160 m. No 6 meters this trip (no antenna). QSL via NN1N, direct only (no Bureau or LoTW). Look for possible updates on <a href="http://www.wake-diego2014.org">http://www.wake-diego2014.org</a>

#### Next Weeks Contests

ARS Spartan Sprint, 01:00 - 03:00 UTC 5 August

CWops Mini-CWT Test, 13:00 - 14:00 UTC 6 August 19:00 - 20:00 UTC 6 August 03:00 - 04:00 UTC 7 August

QRP Fox Hunt, 01:00 - 02:30 UTC 7 August

NCCC RTTY Sprint, 01:45 - 02:15 UTC 8 August

NCCC Sprint Ladder, 02:30 - 03:00 UTC 8 August

SARL YL Sprint, 09:00 - 10:00 UTC

WAE DX Contest, CW, 00:00 UTC 9 August to 23:59 UTC 10 August

SKCC Weekend Sprintathon, 12:00 UTC 9 August to 24:00 UTC 10 August

Maryland-DC QSO Party, 16:00 UTC 9 August to 04:00 UTC 10 August and 16:00 - 24:00 UTC 10 August

50 MHz Fall Sprint, 23:00 UTC 9 August to 03:00 UTC 10 August

MMMonVHF/DUBUS 144 MHz Meteorscatter Sprint Contest, 00:00 UTC 12 August to 24:00 UTC 13 August

#### History this Week, week starting 28 July 14

1375 - The first roller skating rink opens - London

1793 - The Metre is defined as 1/10 millionth of the North Paris half meridian

1809 - The first practical US railroad track (wooden for horse-drawn cars)is built in Philadelphia

1872 - Mahlon Loomis patents wireless telegraphy

1899 - The first motorcycle race held at Manhattan Beach, NY

1977 - Radio Shack issues a press release introducing the TRS-80 computer. 25 existed, within weeks thousands were ordered

1983 - The official speed record for a piston-driven aircraft set at 832 km/h in California

Items used with acknowledgement to The ARRL Letter, Amateur Radio Newsline, OPDX
Bulletin, 425 DX Bulletin, DXNL DX Newsletter, ARRL DX News, WIA-News, the RSGB News,
Southgate ARC News, DxCoffee and the Islands, Castles & Portable Operations Bulletin

